

Knowledge, Attitude, and Practice among Antenatal Mother Regarding High-risk Pregnancy in Penampang Health Clinic, Sabah, Malaysia

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Received date: August 01, 2019; Accepted date: August 17, 2019; Published date: August 23, 2019

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Abstract

A high-risk pregnancy is one of the major health issues in the public health setting. It contributes to the ranked morbidity and mortality statistics in health surveillance. To reduce the incidence and complication of high-risk pregnancy, many strategies have been carried out including examining the root causes which to know the understanding of high-risk pregnancy among the client itself. This study was conducted with the general objective to investigate the knowledge, attitudes, and practices of pregnant women at the Penampang Health Clinic, Sabah on high-risk pregnancies and complications during pregnancy. A descriptive cross-sectional study with structured questionnaires to 100 registered pregnant women, aged between 18 and 45 years old was done. Results showed that no statistically significant differences to the variables ($p \geq \alpha=0.05$). All respondents have good knowledge, attitudes, and practices during pregnancy. The high-risk pregnancy status among respondents showed quite well that none had a red coding antenatal card. 88 people (88%) green coding antenatal card category and 12 (12%) yellow coding antenatal cards. Awareness and knowledge of high-risk pregnancies are also positive where the knowledge score of the respondents is 85% and there is no difference for the level of knowledge about high-risk pregnancy between the primigravida and pregnant mother with more than 4 times pregnancy. This shows that the respondents are ready for pregnancy by getting information about their pregnancy condition. However, there is some study limitation which can be considered for the next study; (i) This sample is limited to 100 respondents only a comprehensive picture of knowledge, attitudes, and practices among mothers pregnant with high-risk pregnancies (ii) The uneven sampling method by population causes no give a clear picture of the objective of the study. (iii) The population selection is limited in the Maternal and Child Health Clinic of Penampang, Sabah only. (iv) Instrument limitation that needs to be processed in more detail to obtain and deliver information about high-risk pregnancies to respondents.

Keywords: Pregnancy; Public health; Maternal and child health; Anemia; Hypertension; Diabetes

Introduction

Pregnancy is one of the most important events in life for all mothers. From the conception until postpartum it may be a critical time for the mother and baby. One of the major health problems in dealing with pregnancy is the high-risk pregnancy mother which includes all the maternal health problem. The common health problem experienced by the pregnant mother is anemia, hypertension, diabetes that may affect the growth and development of the fetus and can threaten the mother's life as well [1]. Based on the health clinic report, the incidence of mortality due to high-risk pregnancy still occurs even though many programs were done to reduce the mortality rate among the pregnant mother.

On top of that, the number of high-risk pregnancy mother reported to be increasing, this may due to the extending of the population but when coming to the color coding of high-risk pregnancy it must be critically analyzed. Colour coding of high-risk pregnancy is one of the powerful tools to detect the early health risk of a pregnant mother and the fetus and appropriate remedial can take place. According to Professor Dr. Zaleha A. M., PPUKM Obstetrics and Gynecologist, "If the pregnant mother has health problems along her pregnancy process

until birth and end with the postpartum period, the mother's life is just like the eggs at the tip of the horn".

This is describing that any health complication experienced by mothers during pregnancy is classified as a high risk among the pregnant mother [1]. Globally, over 30,000 women die each year during pregnancy and childbirth [2] predominantly as a result of pregnancy and birth-related complications [2]. Based on the Department of Statistics Malaysia for 2011 and 2012, the total number of maternal deaths is 134 in every 100,000 live birth and the total number of intrauterine death (IUD) is 2,305 in every 1,000 live birth. Since the incidence of a high-risk mother is still at an unsafe state, this study was conducted to investigate the knowledge, attitude, and practice among antenatal mothers regarding the high-risk pregnancy problem. As stated by Alanazy et al. [3], understanding in more depth the factors that affect antenatal care is vital in providing care that fits women's needs.

Problem Statement

This study is to examine the level of knowledge, attitude, and practice among the pregnant mother concerning the high-risk pregnancy. As stated in e-reporting of the study setting from 2013 to 2017, it showed that the total of high-risk pregnancy based on the color coding classification in Table 1 and maternal death in Table 2 as below:

| Year | 2013 | 2014 | 2015 | 2016 | 2017 |
|----------------------------|-------|-------|-------|-------|-------|
| New antenatal registration | 3,947 | 3,869 | 3,770 | 3,294 | 3,180 |
| Green codding | 2953 | 2638 | 2785 | 2358 | 2670 |
| Yellow codding | 989 | 1226 | 978 | 930 | 504 |
| Red codding | 5 | 5 | 7 | 6 | 6 |

Table 1:High-risk pregnant mother (color codding).

| Cause of mental death | 2013 | 2014 | 2015 | 2016 | 2017 |
|------------------------------|------|------|------|------|------|
| Postpartum hemorrhage | - | - | - | 2 | - |
| Associated Medical Condition | 3 | 3 | 1 | - | 1 |
| Hypertensive Disorder | - | - | - | - | - |
| Others | - | 1 | 2 | 1 | - |

Table 2: Cause of maternal death (antenatal and postnatal).

Oliveira and Mandu [4] revealed that there a few personal aspects that influenced the antenatal health status include the family institution's connection and social life which affected or probably experience bad health effects on the mother and their family.

Research Objective

General objective

To investigate the knowledge, attitudes, and practices of pregnant women at the Penampang Health Clinic, Sabah on high-risk pregnancies and complications during pregnancy.

Specific objectives

- i. To assess the level of knowledge, attitude, and practice of respondents on high-risk pregnancies.
- ii. To identify the factors determining the knowledge, attitudes, and practices associated with high-risk pregnancy among pregnant women at the Penampang Health Clinic, Sabah.

Significance of Study

This study was conducted to enhance the knowledge and awareness of high-risk pregnancy complications and how to prevent it. Based on the researcher finding through the monthly delivery record, it has shown the increasing number of antenatal registrations for every year and followed by maternal and fetal death during the delivery process. This study is very important since it is involved the upsetting number of high-risk mother (Table 1) and give the impacts to both maternal and fetal death (Table 2).

Scope of Study

This study discussion focused on perception and level of knowledge regarding the high-risk problem among the antenatal mother. This study involves 100 antenatal mothers as respondents, and they were selected randomly as a sample study during the antenatal clinic session along the study period in Penampang Health Clinic.

Operational Definition

Perception—a belief or opinion, often held by many people and based on how things seem [5].

Awareness—knowledge that something exists or understanding of a situation or subject at present based on information or experience [5].

Pregnancy - The state of carrying a developing embryo or fetus within the female body. This condition can be indicated by positive results on an over-the-counter urine test, and confirmed through a blood test, ultrasound, and detection of the fetal heartbeat. Pregnancy lasts for about nine months, measured from the date of the woman's last menstrual period (LMP). It is conventionally divided into three trimesters, each roughly three months long.

High-risk pregnancy-A high-risk pregnancy is one that threatens the health or life of the mother or her fetus. It often requires specialized care from specially trained providers [6].

Review of Literature

High-risk pregnancy factors

Many factors are contributing to a high-risk pregnancy. One of them is the socioeconomic factor. Statistical analysis in western countries found that this non-medical factor also affects the death of the fetus. Very low socioeconomic conditions and unmarried mothers are one of the causes of the incidence of premature birth. A study was conducted where pregnant women were separated into five groups according to the level of employment and family income. Group one consists of pregnant women coming from families with professional occupational level, group two comprising office workers, group three are sales shop employees, group four are manual workers and 5 groups are gross labor workers. The result of this study found that the birth of premature infants in the first three groups consisting of professional workers, office workers, and shopkeepers was very low at 4.6%. The fourth group, consisting of qualified manual workers, recorded a 7.9% percentage. The last batch of laborers recorded the highest percentage of births of premature infants with 10.3% [7].

Other factors that lead to high-risk pregnancy are the health conditions of pregnant women such as high blood pressure, diabetes, obesity kidney disease, autoimmune disease, infertility and HIV [8,9]. Some studies have shown that age is also one of the risk factors for pregnancy. Teenage pregnancies at a younger age are more likely to produce high blood pressure and anemia problems. Their risk of pregnancy may also be affected by adolescents who are susceptible to illness or sexual infection. At a young age, pregnant women are less likely to receive prenatal care or to make medical appointments with medical officers to monitor their health condition. The rate of fetal death and the birth of premature babies are high in pregnant women aged below 15 and over 35 years. An analysis made to 137,427 births in the Czech Socialist Republic found that the fetus mortality rate was very high on pregnant women aged 15 and below with 133 per thousand and this was followed by pregnant women aged 40 years and over with 64.5 per thousand. Pregnancy at the age of 35 is more likely to be normal, but studies have found that this group of pregnant women are at risk for surgery, complications during childbirth, birth process longer than 20 hours and possibly the baby is born have genetic disorders such as Down syndrome.

High-risk pregnancy perception

Every pregnant woman needs to know the process of pregnancy, their needs, the problems that they will face and how to solve them as well as their actions and health resources during pregnancy. This is because it will affect their health and they need to take greater emphasis on taking care of themselves during the pregnancy process. Therefore, it is very important for pregnant women to know and learn about the process of pregnancy begin with the condition of care early on. In the meantime, pregnant women also need to understand and take the experience of other people's perspectives on pregnancy and their effects and all relevant matters regarding the well-being of their mothers and their children [4].

According to Mataria [10] study on 35 pregnant women at Miri Hospital Sragen, 11.42% had good knowledge about pregnancy risk, while 80% had moderate knowledge and only 8.58% had a little knowledge about this. Based on these findings, it can be concluded that most pregnant women in the hospital have enough knowledge about high-risk pregnancies of 28%. This is influenced by age and experience factors. Of the 35 respondents, 22 of them were mothers aged 21-30 years old. These age factors affect their knowledge of the risk of pregnancy. While the results of this study found that 26 respondents (74.29%) were pregnant mothers 2 to 3 times. Pregnancy experiences were also closely related to the knowledge of high-risk pregnancy.

Another study conducted by Sukesih [11] found that there was a correlation between socioeconomics for example education and age, personal factors for example experience and information exposure with knowledge of pregnant women about a high-risk pregnancy. Learning about the relationship between education level and knowledge with the knowledge of pregnant women on this risk also studied and the results of the analysis found that respondents with a high level of education had better knowledge about the high-risk pregnancy compared to those with low-grade educated mothers. In terms of the experience of pregnant women, it does not show any relationship between pregnant women who are pregnant or not with their knowledge of high-risk pregnancy.

The results showed that some respondents had a piece of relatively low knowledge about the danger signs of pregnancy, for example, 58.3% equivalent to 49 respondents from 84 people. From 84 respondents, the percentage of those with low education was 86.9%. Aged 20-35 years old is 79.8%. Respondents who experienced a danger sign in pregnancy were 44% and 56% of respondents had never experienced any signs of pregnancy during pregnancy. In this study, the signs of a high-risk pregnancy as an understanding by the respondents are also studied. The results show that 84.5% of respondents stated that vaginal bleeding during pregnancy is one of the signs of high-risk pregnancies and 10.7% stated that weight loss does not increase during pregnancy as a sign of high-risk pregnancies [11].

One study found that pregnant women's perceptions of high-risk pregnancies would be able to alter the mode of thinking, the behavior of the mother to comply with antenatal care which is an early step to detect the risk of high-risk pregnancy condition [12]. This study revealed 39 pregnant women, where the percentage of pregnant women with less knowledge of high-risk pregnancy the highest, which is 51.3%. While 38.5% had a reasonable knowledge about the high-risk pregnancy and only 20.3% shown their good knowledge of high-risk pregnancy. However, the percentage for those who follow Antenatal Care is quite high with 59.0%.

Conceptual framework

A conceptual framework is a system that describes the basic objectives and concepts that are interconnected with one another. The system is the basis or foundation in setting the variables with independent variables in the determination of risk pregnancy events among pregnant women. The conceptual framework model is similar to Djami MEU's conceptual framework, to identify factors that influence the knowledge, attitude, and practice of respondents on risky pregnancies (Figure 1).

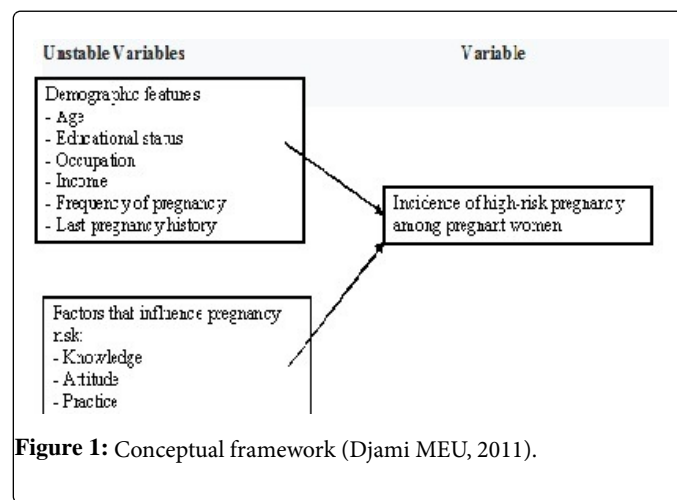


Figure 1: Conceptual framework (Djami MEU, 2011).

Research Methodology

Research design

This is a descriptive cross-sectional study.

Study setting

This study was conducted in Maternal and Child Health, Penampang Health Clinic, Sabah.

Study tool

The data was collected through the modified questionnaire which was developed by the researcher using the Preventive Health Records Guidelines, MOH (Dec 2012) and based on the e reporting record (2012–2017), Penampang Health Office.

The selected respondents explained the purpose of the questionnaire. Once the respondent understands and agrees to answer the question, the form distributed to the respondent to be filled out. Once the form is completed, the form returned to the researcher at the same time.

The questionnaire forms are provided in 4 sections:

Part I: Respondent demographic data information.

Part II: Respondent knowledge level on health practices.

Part III: Respondent attitude towards health practices.

Part IV: Respondent practices (others)

The questionnaire is using the Likert scale to measure the thinking or perception of the respondent against the dangers of high-risk pregnancy: (1) Strongly Disagree, (2) Disagree, (3) Not sure, (4) Agree,

(5) Strongly Agree. Also, answer Correct (1) and Wrong (2) questions and answer Yes (1) or No (2) question. The advantages of the scale used are easy to manage and use, items are easily answered by respondents, reliability in data collection.

Method of Participation

Inclusion criteria

1. Pregnant women registered at the Penampang Health Clinic
2. Understand Bahasa Malaysia or English
3. Age limit within 18 to 45 years only

Exclusion criteria

1. Not pregnant women come to get a service at Penampang Health Clinic
2. Do not understand Bahasa Malaysia or English
3. Pregnant women aged less than 18 years and exceed 45 years old during the study

Sampling

The sampling of this study is convenient. The study was conducted on 100 registered pregnant women, aged between 18 and 45 years old and came to the Maternal and Child Health, Penampang Health Clinic. Pregnant women are randomly selected regardless of pregnancy, risk and pregnancy parity and mother's age. The selection of 100 mothers only, is to facilitate the calculation of the percentage of the packing. The high-risk pregnancy status among respondents showed quite well that none had a red coding antenatal card. 88 people (88%) green coding antenatal card category and 12 (12%) yellow coding antenatal cards.

Variables

Dependent Variables-Knowledge, Attitude and Practice.

Independent Variables-Convenient sampling of aged between 18 to 45 years registered at Penampang Health Clinic, Sabah.

Research period

The study was conducted from 1st June 2017 until 31st December 2018.

Research ethics

An official application requesting permission to conduct the study obtained through the Research Ethical Committee (FONAS), the Clinical Research Center (CRC), the Human Research Committee (HRRC), the Medical Research and Ethics Committee (MREC).

Approval Form as Respondent (informed consent)

The consent form as a case study respondent contains all the conditions that need to be observed and understood by the respondents. Respondents' decisions that do not agree to participate in studies are respected without compulsion.

Data Analysis

The data were analyzed using the SPSS software system Version 22. Descriptive data described as the mean deviation of standard deviation (SD).

| Variables | n | Knowledge score Mean (SD) | F statistics (df) | P-value |
|-----------------------|----|---------------------------|-----------------------|--------------------|
| Age (year) | | | 6.51 (3) ^b | 0.089 ^c |
| < 20 | 3 | 13.0 (NA) ^a | | |
| 21-34 | 70 | 15.0 (0.00) ^a | | |
| 35-40 | 25 | 15.0 (0.00) ^a | | |
| >40 | 2 | Both scored 15 marks | | |
| Educational status | | | 0.01(2) | 0.987 |
| Primary school | 9 | 14.7 (1.00) | | |
| Secondary school | 59 | 14.6 (0.99) | | |
| University | 32 | 14.6 (0.86) | | |
| Occupation | | | 1.021(3) b | 0.987 |
| Housewife | 48 | 14.7 (0.77) | | |
| Business | 5 | 14.4 (1.34) | | |
| Civil servants | 17 | 14.5 (1.08) | | |
| Private servants | 30 | 14.7 (1.09) | | |
| Gross income | | | 0.754(4) | 0.928 |
| >RM500 | 1 | 14.0 (NA) ^a | | |
| RM501-RM1000 | 16 | 14.6 (0.88) | | |
| RM1001-RM2000 | 32 | 14.6 (1.09) | | |
| RM2001-RM3000 | 14 | 14.8 (0.80) | | |
| >RM3001 | 36 | 14.7 (0.82) | | |
| Number of pregnancies | | | 6.73(2) ^b | 0.022 |
| 1 | 19 | 14.1 (1.52) | | |
| 2-4 | 66 | 14.7 (0.77) | | |
| >5 | 15 | 14.8 (0.77) ^a | | |

a: Median (IQR), skewed to the left; b: χ^2 statistics; c: Kruskal-Wallis.

Table 3: Demographic features among 100 respondents.

Referring to Table 3 above, the age category of 100 respondents consisted of 21 to 34 years 70 (70%), followed by 35 to 40 years 25 (25%) then less 20 years 3 (3%) and over 40 years 2 (2%).

Most of the respondents were Kadazan (39%), followed by Dusun 31 (31%), Bajau 12 (12%), Chinese 8 (8%), Suluk 3 (3%), Murut and Badjao 2 (2%), Melanau, Malay and Rungus 1 (1%). Religions are Christian 64 (64%), Muslim 30 (30%) and Buddhism 6 (6%).

Most of the respondents had a secondary school education i.e. 59 (59.0%). University 32 (32%) and Primary School 9 (9%). 48 (48%)

respondents did not work only housewives, as private servants 30 (30%), civil servants 17 (17%) and business 5 (5%).

Estimated gross income of respondents mostly >RM3001 36 persons (36%), RM100- RM2000 32 persons (32%), RM501-RM1000 16 persons (16%), RM2001-RM3000 14 persons (14%) and >RM500 1 orang (1%).

| Variable | Mean (SD)/ (IQR) | Median | n (%) |
|---------------------------------------------------------|------------------|--------|-----------|
| Body weight (kg) | 59.3 (8.90) | - | |
| Height (cm) | 154.0 (4.13) | - | |
| Systolic blood pressure (mmHg) | 113.8 (6.95) | - | |
| Diastolic blood pressure | 73.9 (6.84) | - | |
| Hemoglobin level (g/ml) | 11.3 (0.64) | - | |
| Age of gestation during clinic first visit | 17.3 (7.50) | - | |
| Number of pregnancies | | | |
| 1 | - | | 19 (19.0) |
| 2-4 | - | | 66 (66.0) |
| | - | | 15 (15.0) |
| The color code of the book on the current pregnant card | | | |
| Green | - | | 88 (88.0) |
| Yellow | - | | 12 (12.0) |
| Blood type | | | |
| O positive | - | | 63 (63.0) |
| A positive | - | | 26 (26.0) |
| B positive | - | | 9 (9.0) |
| AB positive | - | | 2 (2.0) |
| Previous birth type | | | |
| Normal | - | | 65 (65.0) |
| Vaccum | - | | 15 (15.0) |
| Surgical method | - | | 1 (1.0) |

Table 4: Medical information 100 respondents.

Table 4 refers to medical information of 100 respondents. Weight (kg) 59.3 (8.90), Height (cm) 154.0 (4.13), Systolic blood pressure (mmHg) 113.8 (6.95), Diastolic blood pressure (mmHg).

Content age during the first visit to clinic 17.3 (7.50). The frequency of pregnancy is Gravida 2-4 as 66 people (66%) followed primigravida 19 people (19%) and Multipara exceed 5 out of 15 people (15%). The color code of the book on the card during pregnancy, 88 (88%) in green, 12 (12%) in yellow.

Most of the respondents had positive O type of blood ie 63 (63%), 26 (26%) positive A type, 9 (9%) positive B type and 2 positives (2%) AB positive blood type. Previous birth types, 65 (65%) are normal, 15 (15%) with Vaccum and one (1%) by surgical method.

| | | Total |
|-----------------|-----------------------|-------|
| Score knowledge | 10.00 Count | |
| | Expected Count | 1 |
| | Standardized Residual | 1.0 |
| | 12.00 Count | |
| | Expected Count | 6 |
| | Standardized Residual | 6.0 |
| | 13.00 Count | |
| | Expected Count | 5 |
| | Standardized Residual | 5.0 |
| | 14.00 Count | |
| | Expected Count | 3 |
| | Standardized Residual | 3.0 |
| | 15.00 Count | |
| | Expected Count | 85 |
| | Standardized Residual | 85.0 |
| | Count | 100 |
| Expected Count | 100.0 | |

Table 5: Levels of knowledge and attitude on high-risk pregnancies among.

Table 5 above shows that all respondents have very good knowledge (85%), the lowest score is 10 marks from the total score of 15 marks. All respondents showed a positive attitude towards pregnancy care.

In terms of practices among 100 pregnant women respondents, all respondents did not smoke and took alcohol and 14 respondents responded to their abstinence during pregnancy.

| Variables | n | Knowledge score Mean (SD) | F statistics (df) | P-value |
|--------------------|----|---------------------------|-----------------------|--------------------|
| Age (year) | | | 6.51 (3) ^b | 0.089 ^c |
| < 20 | 3 | 13.0 (NA) ^a | | |
| 21-34 | 70 | 15.0 (0.00) ^a | | |
| 35-40 | 25 | 15.0 (0.00) ^a | | |
| >40 | 2 | Both scored 15 marks | | |
| Educational status | | | 0.01(2) | 0.987 |
| Primary school | 9 | 14.7 (1.00) | | |
| Secondary school | 59 | 14.6 (0.99) | | |
| University | 32 | 14.6(0.86) | | |
| Occupation | | | 1.021(3) ^b | 0.987 |

| | | | | |
|-----------------------|----|--------------------------|-----------------------|-------|
| Housewife | 48 | 14.7 (0.77) | | |
| Business | 5 | 14.4 (1.34) | | |
| Civil servants | 17 | 14.5 (1.08) | | |
| Private servants | 30 | 14.7 (1.09) | | |
| Gross income | | | 0.754 (4) | 0.928 |
| >RM500 | 1 | 14.0 (NA) ^a | | |
| RM501-RM1000 | 16 | 14.6 (0.88) | | |
| RM1001-RM2000 | 32 | 14.6 (1.09) | | |
| RM2001-RM3000 | 14 | 14.8 (0.80) | | |
| >RM3001 | 36 | 14.7 (0.82) | | |
| Number of pregnancies | | | 6.73 (2) ^p | 0.022 |
| 1 | 19 | 14.1 (1.52) | | |
| 2-4 | 66 | 14.7 (0.77) | | |
| >5 | 15 | 14.8 (0.77) ^a | | |

a: Median (IQR), skewed to the left; b: X² statistics; c: Kruskal-Wallis.

Table 6: Compare knowledge scores on high-risk pregnancies and several factors.

Table 6 is related to factors that may be associated with the knowledge score on high-risk pregnancies and some other factors. All variables for the respondents' knowledge score such as age, educational level, occupation, income and number of pregnancies were not statistically significant ($p \Rightarrow \alpha=0.05$). Average knowledge score is mean (SD) 14 almost all respondents have excellent knowledge about a high-risk pregnancy.

Table 7 is referring to the correlation of attitude scores on risky pregnancies and several other factors. Almost all respondents have a good attitude. There was no statistically significant difference in the variables ($p \Rightarrow \alpha=0.05$).

This study analyzes the knowledge, attitude, and practice of pregnant women at Penampang Health Clinic, Sabah regarding high-risk pregnancies. Results showed that no statistically significant differences to the variables ($p \Rightarrow \alpha=0.05$). All respondents have good knowledge, attitudes, and practices during pregnancy. The result of the study found that the high-risk pregnancy status among respondents showed quite well that none had a red coding antenatal card. 88 people (88%) green coding antenatal card category and 12 (12%) yellow coding antenatal cards.

Awareness and knowledge of high-risk pregnancies are also positive where the knowledge score of the respondents is 85% and there is no difference for the level of knowledge about high-risk pregnancy between the primigravida and pregnant mother with more than 4 times pregnancy. This shows that the respondents are ready for pregnancy by getting information about their pregnancy condition.

| Variables | n | Attitude score Mean (SD) | F statistics (df) | p-value |
|-----------------------|----|--------------------------|-------------------|---------|
| Age (year) | | | 0.31(3) | 0.82 |
| < 20 | 3 | 41.7 (3.21) | | |
| 21-34 | 70 | 42.7(3.31) | | |
| 35-40 | 25 | 42.6 (2.25) | | |
| > 40 | 2 | 41.0 (0.00) | | |
| Level of education | | | 0.71 (2) | 0.311 |
| Primary School | 9 | 42.3 (3.39) | | |
| Secondary school | 59 | 42.9 (3.31) | | |
| University | 31 | 42.3 (2.27) | | |
| Occupation | | | 0.34 (2) | 0.674 |
| Housewife | 48 | 41.9 (2.94) | | |
| Business | 5 | 44.0 (3.93) | | |
| Civil servants | 17 | 43.88 (3.12) | | |
| Private servants | 29 | 42.9 (2.74) | | |
| Gross income | | | 0.56 (2) | 0.809 |
| >RM500 | 1 | 41.87 (3.05) | | |
| RM501-RM1000 | 16 | 42.1(2.93) | | |
| RM1001-RM2000 | 32 | 42.1 (2.93) | | |
| RM2001-RM3000 | 32 | 43.7 (2.81) | | |
| >RM3001 | 14 | 43.2 (3.02) | | |
| Number of pregnancies | | | 0.60 (3) | 0.524 |
| 1 | 19 | 42.0 (3.17) | | |
| 2>4 | 65 | 42.7 (3.01) | | |
| >5 | 15 | 43.3 (2.84) | | |

Table 7: Compare attitude scores on high-risk pregnancies and several factors.

Discussion

Based on demographic data, there are 3 (3%) respondents aged less than 20 years old and 27 (27%) over 35 years old. As a result of this study, all respondents had good knowledge of high-risk pregnancies with a score of 15 (85%). However, in contrast to the findings of Wardlaw and Kessel with first-time mothers at younger ages below 15 years, they find that this age range is less knowledge of pregnancy care that results in increased fetal mortality in premature and premature births, while knowledge and the awareness of women aged 35 years and older on risky pregnancies is positive. An analysis made on 137,427 births in the Czech Socialist Republic found that the fetus mortality rate was very high among pregnant women aged 15 and below with 133 per thousand and this was followed by pregnant women aged 40 and above with 64.5 per thousand. Pregnancy at the age of 35 is more likely to be normal, but studies have found that

pregnant women are at risk for surgery, complications during childbirth, the birth process is longer than 20 hours and possibly the baby is born to have genetic disorders such as Down syndrome.

The level of knowledge and attitude on high-risk pregnancies with socio-economic factors namely education, income, occupation, frequency of pregnancy and age are also no significant differences. Based on the results of this finding, all respondents showed a positive attitude towards risk pregnancies. However, according to the results of Sukesih [12] respondents with a high level of education have good knowledge about the risk of pregnancy compared to pregnant women with a low level of education. While in terms of age, mothers who are in a healthy reproductive age have a better knowledge of pregnancy risk than mothers who are at an unhealthy reproductive age.

All respondents have good practice during pregnancy because they do not smoke and take alcohol. However, 14 (14%) of respondents responded to their abstinence during pregnancy. In a study conducted by Lemoine, respondents who smoke and take alcohol during pregnancy have resulted in miscarriage, premature birth, death, low birth weight, [13-19].

Study Limitation

i. This sample is limited to 100 respondents only a comprehensive picture of knowledge, attitudes, and practices among mothers pregnant with high-risk pregnancies.

ii. The uneven sampling method by population causes no give a clear picture of the objective of the study.

iii. The population selection is limited in the Maternal and Child Health Clinic of Penampang, Sabah only.

iv. Instrument limitation that needs to be processed in more detail to obtain and deliver information about high-risk pregnancies to respondents.

Conclusion and Recommendations

Overall, the specific objectives of this study have been successful, but some other proposals need to be considered to extend this study in the future with more detailed ways and methods to get the maximum results of the study. Among them is;

i. Expanding the study population by involving localities from different places and the number of samples to give a more comprehensive picture of the knowledge, attitudes, and practices of high-risk pregnancies among pregnant women.

ii. Sample selection methods should also be more apparent as this will cause the difference in the number of respondents according to some categories designed in the study tools especially age, pregnancy frequency, and risk factors during pregnancy.

iii. The question structure of the study should also be modified to obtain more feedback in the form of recommendations from pregnant women as references and improvements to effectively implement care programs.

iv. This approach to maternal risk management should be monitored periodically following the principles of participation and monitoring of stakeholders. This monitoring and control should also be explored by involving various parties including husbands, families, communities and community-based Non-Governmental Organizations (NGOs).

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